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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

EVANISKO, GEORGE ROBERT

ART UNIT PAPER NUMBER

3762

DATE MAILED: 08/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,272

Applicant(s)

WOLINSKY ET AL.

Examiner

George R Evanisko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 21-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 6. 6) ☐ Other:

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DETAILED ACTION

Election/Restrictions

Claims 21-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 5.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "the energy storage device configured for storing electrical energy converted...transducers" is vague since the claim has not set forth that the chosen function of the transducers is always for converting energy. Line 7 of the claim has the transducers configured for "at least one of" converting acoustic energy or transmitting a signal and allows for the transducers never to be used for converting energy. If the chosen function of the transducer is for transmitting the signal, then the energy storage devices configuration will be vague since no energy will be converted. Is the claim trying to state that the transducers (or some of the transducers) have both functions of converting energy and transmitting a signal?

In claims 13, 15, 17, 19, and 20, the claims are vague since the transducers have not been set forth to first operate as an energy converter or transmitter for the claims to further limit another element in view of the converted energy or transmitted signal.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, 14, and 20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Schulman et al (6164284).

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Funke (5113859). The coder, 86, is the claimed controller. In addition, since the transducer of Funke is for “at least one” of transmitting, the claimed storage device for storing converted energy is vague.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulman in view of Doron et al (WO 99/34453).

Schulman discloses the claimed invention and the use of other means to charge the rechargeable power source (in patent number 6185452, which Schulman's patent 6164284 incorporates by reference) except for the acoustic transducer configured to convert energy for the power source (claims 3 and 9), the transducer being used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF

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(claim 8). Doron teaches that it is known to have the transducer configured to be an acoustic transducer configured to convert energy for the power source (claims 3 and 9), to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8) to provide a flexural piezoelectric transducer for converting and providing energy to a device and transmitting information from the device that is easily incorporated into the device, that is omnidirectional, that provides maximal response of the transducer while optimizing the electrode area, and to provide a larger energy collecting area. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the acoustic medical device as taught by Schulman, with the transducer configured to be used as an acoustic transducer configured to convert energy for the power source (claims 3 and 9), to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8) as taught by Doron, since such a modification would provide an acoustic medical device with the transducer configured to be used as the acoustic transducer configured to convert energy for the power source (claims 3 and 9), to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer

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across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8) to provide a flexural piezoelectric transducer for converting and providing energy to a device and transmitting information from the device that is easily incorporated into the device, that is omnidirectional, that provides maximal response of the transducer while optimizing the electrode area, and to provide a larger energy collecting area.

Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funke in view of Doron et al (WO 99/34453).

Funke discloses the claimed invention except for the transducer configured to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8). Doron teaches that it is known to have the transducer configured to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8) to provide a flexural piezoelectric transducer for converting and providing energy to a device and transmitting

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information from the device that is easily incorporated into the device, that is omnidirectional, that provides maximal response of the transducer while optimizing the electrode area, and to provide a larger energy collecting area. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the acoustic medical device as taught by Funke, with the transducer configured to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8) as taught by Doron, since such a modification would provide an acoustic medical device with the transducer configured to be used alternatively as an energy exchanger and transmitter (claim 4), the transducer having a substrate with a cavity and a substantially flexible piezoelectric layer across the cavity (claim 5), the transducer having a first external electrode and a second internal electrode (claim 6), the substrate comprising an array of cavities with the layer bonded to the substrate over the cavities (claim 7), and the layer being PVDF (claim 8) to provide a flexural piezoelectric transducer for converting and providing energy to a device and transmitting information from the device that is easily incorporated into the device, that is omnidirectional, that provides maximal response of the transducer while optimizing the electrode area, and to provide a larger energy collecting area.

Claims 3, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulman in view of Schroppel et al (5749909).

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Schulman discloses the claimed invention and the use of other means to power the rechargeable battery except for the means being acoustic energy and using a rectifier for converting the AC converted energy into DC converted energy. Schroppel teaches that it is known to use acoustic energy to recharge the battery and using a rectifier for converting the AC converted energy into DC converted energy to convert the AC energy to DC for the IMD system and prevent unwanted heating of the IMD. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the rechargeable IMDs as taught by Schulman, with the use acoustic energy to recharge the battery and using a rectifier for converting the AC converted energy into DC converted energy as taught by Schroppel, since such a modification would provide a rechargeable IMD using acoustic energy to recharge the battery and using a rectifier for converting the AC converted energy into DC converted energy to convert the AC energy to DC for the IMD system and prevent unwanted heating of the IMD.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schulman in view of Doron (or Schroeppel et al) as applied to claim 9 above.

Schulman in view of Doron (or Schroeppel) discloses the claimed invention except for the use of the rechargeable power source being a capacitor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the rechargeable IMDs as taught by Schulman in view of Doron (or Schroeppel), with the power source being a capacitor since it was known in the art that rechargeable IMDs use capacitors as the power source to provide an inexpensive power source that is small and can easily be placed in IMDs.

Claims 12 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulman (or Funke).

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Schulman (or Funke) discloses the claimed invention except for the pressure sensor being a variable capacitance pressure sensor (claim 12), the controller comprising reset circuitry for resetting the controller when the energy storage device is being charged (claim 15), automatically switching the implant off when the energy storage device falls below a predetermined threshold (claim 16), the controller extracting commands and controlling the implant from the energy converted and activating or deactivating the storage device or pressure sensor based on the commands (claims 17 and 18), and monitoring when the energy conversion stops to activate the implant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the IMD as taught by Schulman (or Funke), with a variable capacitance pressure sensor, the controller comprising reset circuitry for resetting the controller when the energy storage device is being charged, automatically switching the implant off when the energy storage device falls below a predetermined threshold, the controller extracting commands and controlling the implant from the energy converted and activating or deactivating the storage device or pressure sensor based on the commands, and monitoring when the energy conversion stops to activate the implant since it was known in the art that IMD's use: a variable capacitance pressure sensor to provide a conventional pressure sensor that is compact, reliable and easy to implement; the controller comprising reset circuitry for resetting the controller when the energy storage device is being charged to allow the device to not be corrupted by interference from the charging process and allowing the controller to reboot to its original parameters if the energy was shutoff to the controller; automatically switching the implant off when the energy storage device falls below a predetermined threshold to prevent damaging the controller and energy storage device and/or to prevent bad data from being

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transmitted due to the low energy level; the controller extracting commands and controlling the implant from the energy converted and activating or deactivating the storage device or pressure sensor based on the commands to quickly and efficiently transfer data while charging the device and to turn off the sensor when the sensor is not needed to not waste power; and monitoring when the energy conversion stops to activate the implant to prevent the charging process interfering with the implant and to allow the implant to fully charge before operations (i.e. sensing) is started to prevent corrupted data.

Allowable Subject Matter

Claim 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R Evanisko whose telephone number is 703 308-2612. The examiner can normally be reached on M-F 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 703 308-5181. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1148.

GRE
August 25, 2003

GEORGE R. EVANISKO
PRIMARY EXAMINER

9/25/03